



Overview

The Apple® II personal computer is the machine that set the standard in personal computer engineering. Its versatility and accessibility have made it the first choice of over 2 million knowledgeable buyers, including thousands of programmers and hardware developers.

Over 16,000 ready-to-use application programs let you customise the Apple IIe to your exact needs — for business, education, science, industry, and the home. You can also write your own software: every Apple IIe comes with the powerful, easy-to-use Applesoft BASIC built in, and you can choose from a dozen other popular programming languages.

The Apple IIe is unmatched in hard-ware-expansion capability, with hundreds of cards and peripherals available off the shelf. You can also take advantage of the system's open architecture to design your own accessories. Either way, the Apple IIe is an outstanding choice for educational, technical, business, and personal applications.

The Apple IIe A Closer Look

The Apple IIe is an "open" system, ideal for customisation and development. The list below contains some of the most popular expansion options, programming language and operating systems available for the IIe.

Expansion Options (from Apple Computer)

Printers — laser writer and dot matrix (including colour)

- Modems 300 and 1200 baud
- Monitors monochromatic and composite colour
- Disk storage single floppy-disk drives or 3.5 800K microfloppy disk drive or hard-disk systems
- Mouse, hand controllers, joystick
- Serial and parallel interface cards
- ► IEEE-488 interface card

Programming Languages (from Apple and other manufacturers)

Operating Systems (from Apple

and other manufacturers):

- BASIC (interpretive and compiled)
- Pascal
- Logo
- ► 6502 Machine Language
- COBOL
- FORTRAN
- SuperPILOT
- FORTH
- **(**
- \rightarrow PL/1
- ► LISP
- Modula-2
- ► ProDOS[™]
- DOS 3.3
- Pascal
- * CP/M
- MS-DOS

^{*} Needs additional hardware.

Standard Features

- The Apple IIe personal computer comes with these features already built in:
- ► 128 kilobytes of user (random-access) memory
- Easily programmed 65C02 microprocessor
- ► 16 kilobytes of read-only memory, including Applesoft BASIC
- Multipurpose memory-expansion/ video slot
- Seven additional I/O expansion slots
- Typewriter-style keyboard, giving access to all 128 ASCII codes, and including numeric keypad
- Special-purpose keys, including two programmable keys
- Speaker
- ▶ 80 column Text capability

Benefits

Versatility*:

- Run thousands of ready-to-use software applications for business, education, personal productivity, science, graphics and entertainment.
- Attach a mouse for easy programme control.
- Install coprocessor options to run application programmes under CP/M®, MS-DOS™, and other popular operating systems.
- Link your Apple IIe to remote mainframes for data retrieval and analysis.
- Interconnect your computer to other Apple IIe systems for file sharing and electronic mail.
- Connect equipment for instrument and process monitoring and control.
- Customise your system to your needs with printer buffers, real-time clocks, modems and accessories.

Expandability*:

- Use add-on boards to increase the use memory beyond 128 kilobytes.
- Attach hard-disk systems for increased data storage capability.
- Connect external expansion boxes for even more slots.
- Add a musical keyboard for highquality sound synthesis, a graphics tablet for drafting or art, a video digitiser for scientific/industrial applications, or a voice-recognition or voice-synthesis device.
- Add RGB colour-video capability for crisp, high-quality colour graphics and 80-column colour text.
- Write your own software in any of a dozen popular programming languages.
- Design custom interface cards, specialpurpose boards, and peripherals.
- * Using products from Apple Computer and other manufacturers.

Accessibility*:

Technical Specifications



Central Processing Unit (CPU)

65C02 microprocessor
16-bit address bus
8-bit data bus
1.02MHz clock speed (up to 500,000 operations per second)

Video

Text display modes

- ► 40-column text, 24 lines, 5 x 7 dot matrix (suitable for television or monitor)
- ► 80-column text, 24 lines, 5 x 7 dot matrix (monitor required)

Central Processing Unit (CPU) Graphics display modes

- Low-resolution 16-colour graphics: 40h x 48v colour blocks, or 40h x 40v with four lines of text
- High-resolution 6-colour graphics: 280h x 192v dots, or 280h x 160v with four lines of text
- Double high-resolution 16-colour graphics: 560h x 192v dots

Character set

Full 128 (96 printable) ASCII characters, in both upper and lower case

Display formats

Normal, inverse, flashing, mouse text

Memory

128K RAM (expandable to 1.12Mg with a fully configured Apple II Memory expansion card)

16K ROM including:

- Applesoft BASIC interpreter
- System monitor routine for machinelanguage programming. (Includes disassembler and simple I/O device assignment, as well as keyboard and screen-editing features.)
- ▶ 80-column-display firmware
- Diagnostic routines

Electrical

Line voltage: 220V to 240V AC Typical power consumption: 11W Maximum power consumption: 60W Supply voltages

- $+5V (\pm 3\%)$
- $+11.8V (\pm 6\%)$
- $> 5.2V (\pm 10\%)$
- \triangleright 12V (\pm 10%)

Maximum supply currents

- + 5V:2.5A
- + 12V:1.5A
- > 5V:250mA
- ▶ 12V:250mA

Safety and EMI qualifications

FCC Part 15, Class B Computing Devices

Physical

Height: 11.43 cm (4.5 in.)
Width: 38.43 cm (15.13 in.)
Depth: 45.72 cm (18 in.)
Weight: 5.45 kg (12 lbs.)

Environmental

External ambient operating temperature: (32° to 113°F) 0° to 45°C

Maximum temperature on power supply case:(130°F) 55°C

Relative humidity: 5%-85%

Inputs/Outputs

Typewriter-style keyboard with numeric keypad

- Contoured, full-travel keys for easy touch-typing
- Generates all 128 ASCII character codes
- Two programmable function keys (OPEN APPLE and SOLID APPLE)
- Four directional arrow (cursor-movement) keys
- Special-purpose keys (ESCAPE, CONTROL, CAPS LOCK, DELETE, TAB, SHIFT, AND RESET)
- All keys repeat automatically
 Multipurpose video and memoryexpansion slot
 Seven additional I/O slots
- All slots fully buffered, with interrupt and DMA priority structure Modified NTSC-compatible (USA) colour video output Monochromatic video output Speaker and sound-generation capability Game I/O signals:
- 3 switch inputs
- 4 analogue (hand control) inputs
- ► 4 annunciator outputs
- 1 strobe output
- Ground and +5 volts output

The Apple IIe Personal Computer Order No. A2S2128X

The Apple IIe package includes:

- ▶ 128 K Apple IIe system
- Power cord
- Tutorial disks
- Owner's manual
- "'A Touch of Applesoft basic'' programming manual
- ▶ 12 months warranty

Apple Computer Australia Pty. Ltd. (Incorporated in NSW)

16 Rodborough Road Frenchs Forest, NSW 2086 Tel: (02) 452-8000 Tlx: AA73914 (Apple) FAX: (02) 452-8160

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IMPORTANT

Before you do anything, read this leaflet.



Packing List for Apple™ IIe

This package contains the following items:

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- Disks An Introduction and The Inside Story
 Getting Down to BASIC and The Apple at Work
- 2 Manuals: Apple IIe Owner's Giride A Touch of Applesoft BASIC
- 1 Power cord
- 1 Logo decals
- 1. Warranty card

If you have any questions, please contact your authorized Apple dealer

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